

First Semester

November 2001

Student Number _____

Surname _____

Given name _____

Hearing Aids & Adult Aural Rehabilitation 512

INSTRUCTIONS

Time allowed: 3 hours

Reading time: 10 minutes

This paper contain 2 parts on 6 pages

Part A is worth 70 marks & contains 16 short answers

ANSWER ALL QUESTIONS IN AN ANSWER BOOK

Part B is worth 30 marks& contains 5 essays

ANSWER 3 of the 5 ESSAYS

Part A - Short answer (70 marks)

1. A hearing impaired individual's ability to understand speech is affected as a result of their hearing loss. Describe the effects on their speech perception in terms of reduced

- a) audibility
- b) dynamic range
- c) frequency resolution
- d) temporal resolution

(4 marks)

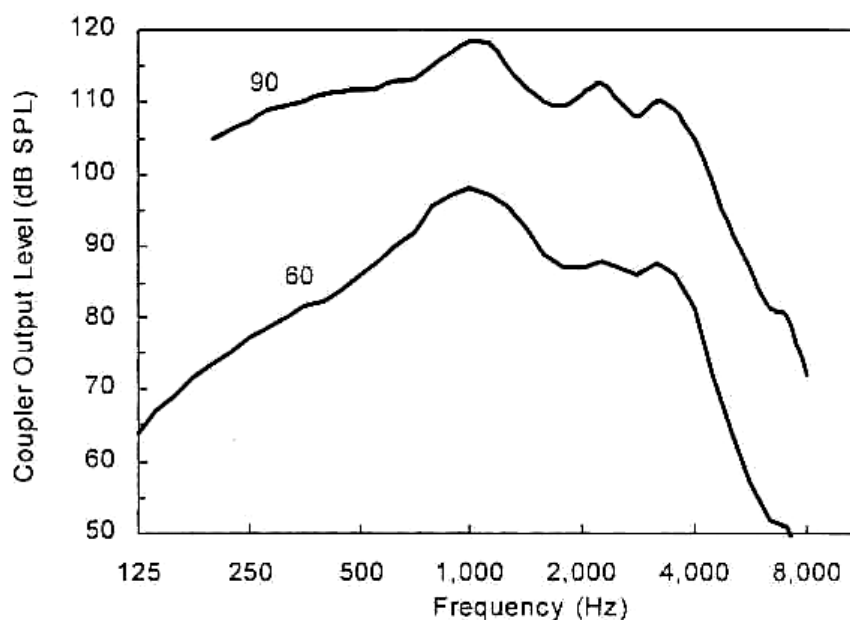
2. Most audiology practices adopt rehabilitative models of service delivery. List 3 advantages and 3 disadvantages to using this approach?

(6 marks)

3. Fig 1 shows the gain-frequency response (measured with a 60dB SPL input level) and OSPL90 frequency response of a BTE measured in a 2cc coupler with a swept pure tone. What is the gain and OSPL90 for this hearing aid at 1 kHz and 4kHz? Given that the measurement was made with the aid on maximum volume, describe the severity and configuration of a sensorineural hearing loss you would fit this aid to?

(6 marks)

Figure 1 Gain-frequency response (measured with a 60 dB SPL input level) and OSPL90-frequency response of a BTE measured in a 2-cc coupler with a swept pure tone.



4. What is an HA1 coupler? Draw a diagram which shows how you would connect a hearing aid to an HA1 coupler for measurement in a test-box.

(4 marks)

5. What is a compressor? Draw a block diagram of a basic feedback type compression amplifier.

(4 marks)

6. Draw an input/output diagram for a peak clipping aid with 30dB gain at 1kHz. The aid limits at 120dB.

(3 marks)

7. The three most popular prescriptive formulae for hearing aid selection are NAL-RP, POGO and DSL. How do they differ? Which would you adopt in your clinical practice and why?

(6 marks)

8. What is a HiPro?

(2 marks)

9. You have fitted an analogue BTE with no trimpots but need to fine tune a hearing aid. What would you do to

- a) increase the gain at 3-4KHz
- b) reduce the gain below 1 KHz
- c) reduce the gain primarily in the low frequencies.
- d) reduce the peaky response of the aid

(4 marks)

10. What type of ear mould style and material are you likely to order for an adult client being fitted with a BTE who has

- a) a mild sensorineural hearing loss
- b) a steeply sloping sensorineural hearing loss (normal below 1000Hz)
- c) a profound sensorineural hearing loss.

(3 marks)

11. What is meant by

- a) RECD
- b) REAG
- c) REUG
- d) REIG.

(4 marks)

12. Hearing strategies can be grouped into three areas. What are these and give a situational example of how you would explain each of these to your client.

(6 marks)

13. Describe how you would go about measuring for PTS and TTS (as a result of high gain hearing aid usage) in a client whose audiogram shows a significant drop in thresholds.

(5 marks)

14. A client has returned to you for fine tuning adjustments on their hearing aid. What changes would you make when they indicate

- a) Their own voice sounds "booming"
- b) Other peoples voices sound "tinny"
- c) Loud sounds are unbearable
- d) The aid whistles when they smile
- e) The hearing aid is noisy in quiet situations

(5 marks)

15. What is meant by the term "Hearing Loss Desensitization"?

(2 marks)

16. List 6 factors you would need to consider when fitting hearing aids to young children.

(6 Marks)

Part B - Essays (Total marks 30)

Write an essay on 3 of the 5 topics. Each essay is worth 10 marks.

1. Describe the different styles of hearing aids available on the market. Outline their advantages and disadvantages and the types of clients they may be appropriate for.
2. The SPIN test is widely used by audiologists in Rehabilitative settings. Describe the test, the reasons for its development, the reasons why audiologists use the SPIN, test administration and interpretation of results.
3. The best predictors of counselling outcomes can be describes in terms of clinician variables, client variables and clinician-client relationship. Discuss.
4. The most important word in health care is "Outcomes". Discuss the different types of outcomes assessment measures available in rehabilitative audiology.
5. Audiologists can choose 3 techniques to evaluate whether prescriptive targets have been met in their selection of hearing aids. What are they? Outline how each is performed. Which is the most commonly used and why?

